

PTO/SB/08a (07-05)

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)			Complete if Known		
			Application Number	10/733,855	
			Filing Date	12/10/2003	
			First Named Inventor	Carr et al.	
			Art Unit	1634	
			Examiner Name	Lu, Frank Wei Min	
Sheet	1	of	8	Attorney Docket Number	056754/0124114

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
u	P1	US-5459039	10-17-1995	Modrich et al.	
	P2	US-5558750	09-17-1996	Modrich et al.	
	P3	US-5679522	10-12-1997	Modrich et al.	
	P4	US-5702894	12-30-1997	Modrich et al.	
	P5	US-5707806	01-13-1998	Shuber	
	P6	US-5858754	01-12-1999	Modrich et al.	
	P7	US-5861482	01-19-1999	Modrich et al.	
	P8	US-5877280	03-02-1999	Wetmur	
	P9	US-5922539	07-13-1999	Modrich et al.	
	P10	US-6008031	12-28-1999	Modrich et al.	
	P11	US-6365355	04-02-2002	McCutchen-Maloney	
	P12	US-6521427	02-18-2003	Evans	
	P13	US-20030138782-A1	07-24-2003	Evans	
	P14	US-6613513	09-02-2003	Parce et al.	
	P15	US-20030171325-A1	09-11-2003	Gascoyne	
	P16	US-6632641	10-14-2003	Brennan et al.	
	P17	US-20030228602-A1	12-11-2003	Parker et al.	
	P18	US-6870127	12-30-2003	Evans	
	P19	US-6873552	01-06-2004	Frey	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
u	FP1	WO 03/054232 - A2		07-03-2003	Blue Heron Biotechnology, Inc.	
u	FP2	EP 1 314 783 - A1		11-22-2001	Sloning BioTechnology GmbH	

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
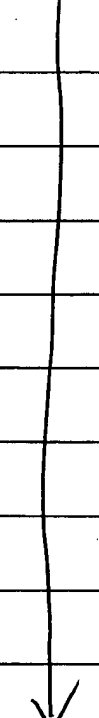

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		Filing Date	12/10/2003
		First Named Inventor	Carr et al.
		Art Unit	1634
		Examiner Name	Lu, Frank
Sheet 2	of 8	Attorney Docket Number 056754/0124079	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
  	NP1	ALEXEYEV, Mikhail F. et al., "Gene synthesis, bacterial expression and purification of the <i>Rickettsia prowazekii</i> ATP/ADP translocase", <i>Biochimica et Biophysica Acta</i> , Vol. 1419, 299-306 (1999).	<input checked="" type="checkbox"/>
	NP2	AMBLARD, Francois et al., "A magnetic manipulator for studying local rheology and micromechanical properties of biological systems", <i>Rev. Sci. Instrum.</i> , Vol. 67, No. 3, 818-827 (March 1996).	<input checked="" type="checkbox"/>
	NP3	ASSI, Fabiano et al., "Massively parallel adhesion and reactivity measurements using simple and inexpensive magnetic tweezers", <i>J. Appl. Phys.</i> , Vol. 92, No. 9, 5584-5586 (1 Nov. 2002).	<input checked="" type="checkbox"/>
	NP4	AU, Lo-Chun et al., "Gene synthesis by a LCR-based approach : high level production of Leptin-L54 using synthetic gene in <i>Escherichia coli</i> ", <i>Biochemical and Biophysical Research Communications</i> , Vol. 248, 200-203 (1998).	<input checked="" type="checkbox"/>
	NP5	BAEDEKER, Mathias et al., "Overexpression of a designed 2.2kb gene of eukaryotic phenylalanine ammonia-lyase in <i>Escherichia coli</i> ", <i>FEBS Letters</i> , Vol. 457, 57-60 (1999).	<input checked="" type="checkbox"/>
	NP6	BEAUCAGE, Serge L. et al., "The Chemical synthesis of DNA/RNA".	<input checked="" type="checkbox"/>
	NP7	BEAULIEU, Martin et al., "PCR candidate region mismatch scanning: adaptation to quantitative, high-throughput genotyping", <i>Nucleic Acids Research</i> , Vol. 29, No. 5, 1114-1124 (2001).	<input checked="" type="checkbox"/>
	NP8	BISWAS, Indranil et al., "Identification and characterization of a thermostable MutS homolog from <i>Thermus aquaticus</i> ", <i>The Journal of Biological Chemistry</i> , Vol. 271, No. 9, 5040-5048 (1 Mar. 1996)	<input checked="" type="checkbox"/>
	NP9	BISWAS, Indranil et al., "Interaction of MutS protein with the major and minor grooves of a heteroduplex DNA", <i>The Journal of Biological Chemistry</i> , Vol. 272, No. 20, 13355-13364 (16 May 1997)	<input checked="" type="checkbox"/>
	NP10	BJORNSON, Keith P. et al., "Differential and simultaneous adenosine Di- and Triphosphate binding by MutS", <i>The Journal of Biological Chemistry</i> , Vol. 278, No. 20, 18557-18562 (16 May 2003)	<input checked="" type="checkbox"/>
	NP11	CASMIRO, Danilo R. et al., "PCR-based gene synthesis and protein NMR spectroscopy", <i>Structure</i> , Vol. 5, No. 11, 1407-1412 (1997).	<input checked="" type="checkbox"/>

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		Art Unit	1634
		Examiner Name	Lu, Frank
Sheet 3 of 8	Attorney Docket Number	056754/0124079	

NON PATENT LITERATURE DOCUMENTS			
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	NP12	CELLO, Jeronimo et al., "Chemical synthesis of poliovirus cDNA : Generation of infectious virus in the absence of natural template", <i>Science</i> , Vol. 297, 1016-1018 (9 Aug. 2002).	<input checked="" type="checkbox"/>
	NP13	CHALMERS, Felicity M. et al., "Scaling up the ligase chain reaction-based approach to gene synthesis", <i>BioTechniques</i> , Vol. 30, No. 2, 249-252 (2001).	<input checked="" type="checkbox"/>
	NP14	CUTLER, David J. et al., "High-throughput variation detection and genotyping using microarrays", <i>Genome Research</i> , Vol. 11, 1913-1925 (2001).	<input checked="" type="checkbox"/>
	NP15	DEAMER, David W. et al., "Characterization of nucleic acids by nanopore analysis", <i>Acc. Chem. Res.</i> , Vol. 35, No. 10, 817-825 (2002).	<input checked="" type="checkbox"/>
	NP16	DIETRICH, Rudiger et al., "Gene assembly based on blunt-ended double-stranded DNA-modules", <i>Biotechnology Techniques</i> , Vol. 12, No. 1, 49-54 (Jan. 1998).	<input checked="" type="checkbox"/>
	NP17	EISEN, Jonathan A., "A phylogenomic study of the MutS family of proteins", <i>Nucleic Acids Research</i> , Vol. 26, No. 18, 4291-4300 (1998).	<input checked="" type="checkbox"/>
	NP18	FEDORYAK, Olesya D. et al., "Brominated hydroxyquinoline as a photolabile protecting group with sensitivity to multiphoton excitation", <i>Org. Lett.</i> , Vol. 4, No. 20, 3419-3422 (2002).	<input checked="" type="checkbox"/>
	NP19	GALNEDER, R. et al., "Microelectrophoresis of a bilayer-coated silica bead in an optical trap: application to enzymology", <i>Biophysical Journal</i> , Vol. 80, No. 5, 2298-2309 (May 2001).	<input checked="" type="checkbox"/>
	NP20	GAO, Xiaolian et al., "A flexible light-directed DNA chip synthesis gated by deprotection using solution photogenerated acids", <i>Nucleic Acids Research</i> , Vol. 29, No. 22, 4744-4750 (2001).	<input checked="" type="checkbox"/>
	NP21	GARROW, Norbert et al., "Optical tweezing electrophoresis of isolated, highly charged colloidal spheres", <i>Colloids and Surfaces A: Physicochem. Eng. Aspects</i> , Vol. 195, 227-241 (2001).	<input checked="" type="checkbox"/>
	NP22	GOSSE, Charlie et al. "Magnetic tweezers: micromanipulation and force measurement at the molecular level", <i>Biophysical Journal</i> , Vol. 82, 3314-3329 (June 2002).	<input checked="" type="checkbox"/>

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		Art Unit	1634
		Examiner Name	Lu, Frank
Sheet 4 of 8	Attorney Docket Number	056754/0124079	

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<i>W</i>	NP23	HABER, Charbel et al., "Magnetic tweezers for DNA micromanipulation", <i>Rev. Sci. Instrum.</i> , Vol. 71, No. 12, 4561-4570 (Dec. 2000).	✓
	NP24	HECKER, Karl H. et al., "Error analysis of chemically synthesized polynucleotides", <i>BioTechniques</i> , Vol. 24, No. 2, 256-260 (1998).	✓
	NP25	HOOVER, David M. et al., "DNAWorks : an automated method for designing oligonucleotides for PCR-based gene synthesis", <i>Nucleic Acids Research</i> , Vol. 30, No. 10 (2002).	✓
	NP26	HOSU, Basarab G. et al., "Magnetic tweezers for intracellular applications", <i>Rev. Sci. Instrum.</i> , Vol. 74, No. 9, 4158-4163 (Sept. 2003).	✓
	NP27	HUANG, Hayden et al., "Three-dimensional cellular deformation analysis with a two-photon magnetic manipulator workstation", <i>Biophysical Journal</i> , Vol. 82, No. 4, 2211-2223 (Apr. 2002).	✓
	NP28	JACKSON, Brian A. et al., "Recognition of DNA base mismatches by a rhodium intercalator", <i>J. Am. Chem. Soc.</i> , Vol. 119, 12986-12987 (1997).	✓
	NP29	KE, Song-Hua et al., "Influence of neighboring base pairs on the stability of single base bulges and base pairs in a DNA fragment", <i>Biochemistry</i> , Vol. 34, 4593-4600 (1995).	✓
	NP30	KELLEY, Shana O. et al., "Single-base mismatch detection based on charge transduction through DNA", <i>Nucleic Acids Research</i> , Vol. 27, No. 24, 4830-4837 (1999).	✓
	NP31	KIM, Yang-Gyun et al., "Chimeric restriction endonuclease", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 91, 883-887 (Feb. 1994).	✓
	NP32	KIM, Yang-Gyun et al., "Site-specific cleavage of DNA-RNA hybrids by zinc finger/Fok I cleavage domain fusions", <i>Gene</i> , Vol. 203, 43-49 (1997).	✓
✓	NP33	KIM, Yang-Gyun, "The interaction between Z-DNA and the Zab domain of double-stranded RNA adenosine deaminase characterized using fusion nucleases", <i>The Journal of Biological Chemistry</i> , Vol. 274, No. 27, 19081-19086 (1999).	✓

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u	NP34	KOPP, Martin U. et al., "Chemical amplification: continuous-flow PCR on a chip", <i>Science</i> , Vol. 280, 1046-1048 (15 May 1998).	✓
	NP35	LAGALLY, E.T. et al., "Single-molecule DNA amplification and analysis in an integrated microfluidic device", <i>Anal. Chem.</i> , Vol. 73, No. 3, 565-570 (1 Feb. 2001).	✓
	NP36	LAHUE, R.S. et al., "DNA mismatch correction in a defined system", <i>Science</i> , Vol. 425, No. 4914, 160-164 (14 July 1989).	✓
	NP37	LAMBRINAKOS, A. et al., "Reactivity of potassium permanganate and tetraethylammonium chloride with mismatched bases and a simple mutation detection protocol", <i>Nucleic Acids Research</i> , Vol. 27, No. 8, 1866-1874 (1999).	✓
	NP38	LANG, Matthew J. et al., "An automated two-dimensional optical force clamp for single molecule studies", <i>Biophysical Journal</i> , Vol. 83, 491-501 (July 2002).	✓
	NP39	LEE, C.S. et al., "Microelectromagnets for the control of magnetic nanoparticles", <i>Appl. Phys. Lett.</i> , Vol. 79, No. 20, 3308-3310 (12 Nov. 2001).	✓
	NP40	LI, Lin et al., "Functional domains in <i>Fok I</i> restriction endonuclease", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 89, 4275-4279 (May 1992).	✓
	NP41	LIPSHUTZ, Robert J. et al., "High density synthetic oligonucleotide arrays", <i>Nature Genetics Supplement</i> , Vol. 21, 20-24 (Jan. 1999).	✓
	NP42	LISHANSKI, Alla et al., "Mutation detection by mismatch binding protein, MutS, in amplified DNA : application to the cystic fibrosis gene", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 91, 2674-2678 (March 1994).	✓
	NP43	LU, A.-Lien et al., "Methyl-directed repair of DNA base-pair mismatches <i>in vitro</i> ", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 80, 4639-4643 (Aug. 1983).	✓
	NP44	MCGALL, Glenn H. et al., "The efficiency of light-directed synthesis of DNA arrays on glass substrates", <i>J. Am. Chem. Soc.</i> , Vol. 119, No. 22, 5081-5090 (4 June 1997).	✓

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m	NP45	MULLER, Caroline et al., "Protection and labelling of thymidine by a fluorescent photolabile group", <i>Helvetica Chimica Acta</i> , Vol. 84, 3735-3741 (2001).	✓
	NP46	NAKATANI, Kazuhiko et al., "Recognition of a single guanine bulge by 2-Acylamino-1,8-naphthyridine", <i>J. Am. Chem. Soc.</i> , Vol. 122, 2172-2177 (2000).	✓
	NP47	PELLOIS, Jean Philippe et al., "Individually addressable parallel peptide synthesis on microchips", <i>Nature Biotechnology</i> , Vol. 20, 922-926 (Sept. 2002).	✓
	NP48	RUMINY, Philippe et al., "Long-range identification of hepatocyte nuclear factor-3 (FoxA) high and low-affinity binding sites with a chimeric nuclease", <i>J. Mol. Biol.</i> , Vol. 310, 523-535 (2001).	✓
	NP49	SACCONI, L. et al., "Three-dimensional magneto-optic trap for micro-object manipulation", <i>Optics Letters</i> , Vol. 26, No. 17, 1359-1361 (1 Sept. 2001).	✓
	NP50	SCHMALZING, Dieter et al., "Microchip electrophoresis: a method for high-speed SNP detection", <i>Nucleic Acids Research</i> , Vol. 28, No. 9, i-vi (2000).	✓
	NP51	SIERZCHALA, Agnieszka B. et al., "Solid-phase oligodeoxynucleotide synthesis: a two-step cycle using peroxy anion deprotection", <i>J. Am. Chem. Soc.</i> , Vol. 125, No. 44, 13427-13441 (2003).	✓
	NP52	SINGH-GASSON, Sangeet et al., "Maskless fabrication of light-directed oligonucleotide microarrays using a digital micromirror array", <i>Nature Biotechnology</i> , Vol. 17, 974-978 (Oct. 1999).	✓
	NP53	SMITH, Jane et al., "Mutation detection with MthH, MthL, and MthS mismatch repair proteins", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 93, 4374-4379 (April 1996).	✓
	NP54	SMITH, Jane et al., "Removal of polymerase-produced mutant sequences from PCR products", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 94, 6847-6850 (June 1997).	✓
✓	NP55	SMITH, Steven B. et al., "Direct mechanical measurements of the elasticity of single DNA molecules using magnetic beads", <i>Science</i> , Vol. 258, 1122-1126 (13 Nov. 1992).	✓



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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		<i>Application Number</i>	10/733,847 855
		<i>Filing Date</i>	12/10/2003
		<i>First Named Inventor</i>	Carr et al.
		<i>Art Unit</i>	1634
		<i>Examiner Name</i>	Lu, Frank
(Use as many sheets as necessary)		<i>Attorney Docket Number</i>	056754/0124079
Sheet	7	of	8

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	NP56	STEMMER, Willem P.C. et al., "Single-step assembly of a gene and entire plasmid from large numbers of oligodeoxyribonucleotides", <i>Gene</i> , Vol. 164, 49-53 (1995).	<input checked="" type="checkbox"/>
	NP57	TANASE, M. et al., "Magnetic trapping of multicomponent nanowires", 1-3 (25 June 2001).	<input checked="" type="checkbox"/>
	NP58	VISSCHER, Koen et al., "Construction of multiple-beam optical traps with nanometer-resolution position sensing", <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , Vol. 2, No. 4, 1066-1076 (Dec. 1996).	<input checked="" type="checkbox"/>
	NP59	VOLDMAN, Joel et al., "Holding forces of single-particle dielectrophoretic traps", <i>Biophysical Journal</i> , Vol. 80, No. 1, 531-541 (Jan. 2001).	<input checked="" type="checkbox"/>
	NP60	WAH, David A. et al., "Structure of the multimodular endonuclease Fok I bound to DNA", <i>Nature</i> , Vol. 388, 97-100 (3 July 1997).	<input checked="" type="checkbox"/>
	NP61	WAH, David A. et al., "Structure of Fok I has implications for DNA cleavage", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 95, 10564-10569 (Sept. 1998).	<input checked="" type="checkbox"/>
	NP62	WHITEHOUSE, Adrian et al., "Analysis of the mismatch and insertion/deletion binding properties of <i>Thermus thermophilus</i> , HB8, MutS", <i>Biochemical and Biophysical Research Communications</i> , Vol. 233, 834-837 (1997).	<input checked="" type="checkbox"/>
	NP63	WIRTZ, Denis, "Direct measurement of the transport properties of a single DNA molecule", <i>Physical Review Letters</i> , Vol. 75, No. 12, 2436-2439 (18 Sept. 1995).	<input checked="" type="checkbox"/>
	NP64	WITHERS-MARTINEZ, Christaine et al., "PCR-based gene synthesis as an efficient approach for expression of the A + T-rich malaria genome", <i>Protein Engineering</i> , Vol. 12, No. 12, 1113-1120 (1999).	<input checked="" type="checkbox"/>
	NP65	WOOD, Richard D. et al., "Human DNA repair genes", <i>Science</i> , Vol. 291, 1284-1289 (16 Feb. 2001).	<input checked="" type="checkbox"/>
	NP66	WU, Xing-Zheng et al., "An improvement of the on-line electrophoretic concentration method for capillary electrophoresis of proteins and experimental factors affecting the concentration effect", <i>Analytical Sciences</i> , Vol. 16, 329-331 (March 2000).	<input checked="" type="checkbox"/>

Examiner Signature		Date Considered	2/16/2007
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Complete if Known

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Filing Date	12/10/2003
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First Named Inventor	Carr et al.
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Art Unit	1634
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Examiner Name	Lu, Frank
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Sheet	8	of	8	Attorney Docket Number	056754/0124079
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**Examiner
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Date _____

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